

[0004]

In light of the above-described circumstances, an object of the present invention is to provide a map information display control device that appropriately notifies a user of information, a system thereof, a method thereof, a program thereof and a recording medium storing the program.

MEANS FOR SOLVING THE PROBLEMS

[0005]

A map information display controlling device according to an aspect of the invention includes: a map information acquirer which acquires map information; an information acquirer which acquires map component information forming the map information with at least one of traffic information relating to a traffic status or feature information relating to a feature; a time information acquirer which acquires time information relating to a time when the map component information is acquired; a timer which counts an elapsed time up to a current time based on the time information; and a display controller which controls a display unit to display the map information and to superpose the map component information relating to the elapsed time having exceeded a predetermined time period on the map information in a display pattern with higher transparency than different from the map component information relating to the elapsed time not having exceeded the predetermined time period.

[0006]

A map information display controlling device according to another aspect of the invention includes: a map information acquirer which acquires map information; an information acquirer which acquires: map component information forming the map information with at least one of traffic information relating to a traffic status or feature information relating to a feature; and information containing time information relating to a time when the map component information is generated; a timer which counts an elapsed time up to a current time based on the time information; and a display controller which controls a display unit to display the map information and to superpose the map component information of the information relating to the elapsed time having exceeded a

predetermined time period on the map information in a display pattern with higher transparency than different from the map component information of the information relating to the elapsed time not having exceeded the predetermined time period.

[0007]

5 A map information display control system according to an aspect of the invention includes: the above-described map information display control device; and a terminal unit which is connected to the map information display control device via a network in a data transmittable manner, the terminal unit including the display unit which displays the map information.

10 [0008]

A map information display control system according to another aspect of the invention includes: a server having a storage and a distributing unit; and the above-described map information display control device. The storage stores map information. The distributing unit distributes: map component information forming the 15 map information with at least one of traffic information relating to a traffic status or feature information relating to a feature; and time information relating to a time when the map component information is generated or distributed by an information distributor. The map information display control device is connected to the server via a network in a data transmittable manner and controls the display unit to display the map information and the 20 map component information.

[0009]

In a map information display control method according to an aspect of the invention, a computing unit controls a display unit to display map information. The computing unit acquires: map component information forming the map information with 25 at least one of traffic information relating to a traffic status or feature information relating to a feature; and time information relating to a time when the map component information is acquired. The computing unit controls, on recognizing that the acquired time information has exceeded the predetermined time period, the display unit to superposeddisplay the map information corresponding to the time information on the map

information in a display pattern with higher transparency than different from the map component information corresponding to the time information not having exceeded the predetermined time period.

[0010]

5 In a map information display control method according to another aspect of the invention, a computing unit controls a display unit to display map information. The computing unit acquires: map component information forming the map information with at least one of traffic information relating to a traffic status or feature information relating to a feature; and time information relating to a time when the map component information 10 is generated. The computing unit controls, on recognizing that the time information of the acquired information has exceeded the predetermined time period, the display unit to superposeddisplay the map component information of the acquired information on the map information in a display pattern with higher transparency than different from the map component information of the information including the time information not having 15 exceeded the predetermined time period.

[0011]

A map information display control program according to an aspect of the invention controls a computing unit to work as the above-described map information display control device or as the above-described map information display control system.

20 [0012]

A map information display control program according to another aspect of the invention controls a computing unit to execute the above-described map information display control method.

[0013]

25 In a recording medium storing a map information display control program according to an aspect of the invention, the above-described map information display control program is stored in a manner readable by the computing unit.

BRIEF DESCRIPTION OF DRAWINGS

[0014]

CLAIMS

[1] (Amended) A map information display control device, comprising:
a map information acquirer which acquires map information;
an information acquirer which acquires map component information forming the
map information with at least one of traffic information relating to a traffic status or
feature information relating to a feature;
a time information acquirer which acquires time information relating to a time
when the map component information is acquired;
a timer which counts an elapsed time up to a current time based on the time
information; and
a display controller which controls a display unit to display the map information
and to superpose the map component information relating to the elapsed time having
exceeded a predetermined time period on the map information in a display pattern with
higher transparency than different from the map component information relating to the
elapsed time not having exceeded the predetermined time period.

[2] The map information display control device according to claim 1, wherein the
display controller changes the display pattern of the map component information relating
to the elapsed time having exceeded the predetermined time period.

[3] The map information display control device according to claim 1 or 2, wherein
the time information acquirer associates the time information with the map component
information to generate a single piece of information.

[4] The map information display control device according to any one of claims 1 to 3,
wherein the time information acquirer acquires the current time counted by the timer at a
time when the information acquirer acquires the map component information as the time
information.

[5] (Amended) A map information display control device, comprising:
a map information acquirer which acquires map information;
an information acquirer which acquires: map component information forming the
map information with at least one of traffic information relating to a traffic status or

feature information relating to a feature; and information containing time information relating to a time when the map component information is generated;

a timer which counts an elapsed time up to a current time based on the time information; and

5 a display controller which controls a display unit to display the map information and to superpose the map component information of the information relating to the elapsed time having exceeded a predetermined time period on the map information in a display pattern with higher transparency than different from the map component information of the information relating to the elapsed time not having exceeded the
10 predetermined time period.

[6] The map information display control device according to claim 5, wherein the display controller changes the display pattern of the map component information of the information relating to the elapsed time having exceeded the predetermined time period.

[7] The map information display control device according to any one of claims 1 to 6,
15 further comprising:

a map information storage which stores the map information; and
an information storage which can store plural pieces of information, in each piece
the map component information and the time information being associated.

[8] The map information display control device according to claim 7, wherein the
20 information storage stores the plural pieces of information by associating unique
identification information with each type of the map component information.

[9] The map information display control device according to claim 7 or 8, wherein
when the information acquirer acquires the map component information same as one of
the stored plural pieces of information, the information storage conducts an updating by
25 replacing the one of the stored plural pieces of information with one piece of information
associated with the time information corresponding to the same map component
information.

[10] The map information display control device according to claim 9, wherein when
recognizing the updating, the display controller displays the map component information

relating to the replaced information in a different pattern from the other map component information.

[11] (Amended) The map information display control device according to any one of claims 1 to 10, wherein the display controller displays such that a difference in 5 ~~transparency~~~~the display pattern~~ becomes large as the elapsed time becomes long.

[12] A map information display control system, comprising:
the map information display control device according to any one of claims 1 to 11; and

10 a terminal unit which is connected to the map information display control device via a network in a data transmittable manner, the terminal unit including the display unit which displays the map information.

[13] A map information display control system, comprising:
a server including: a storage storing map information; and a distributing unit 15 distributing: map component information forming the map information with at least one of traffic information relating to a traffic status or feature information relating to a feature; and time information relating to a time when the map component information is generated or distributed by an information distributor;

20 the map information display control device according to any one of claims 1 to 11, which is connected to the server via a network in a data transmittable manner and controls the display unit to display the map information and the map component information.

[14] (Amended) A map information display control method in which a computing unit controls a display unit to display map information, wherein the computing unit acquires: map component information forming the map information with at least one 25 of traffic information relating to a traffic status or feature information relating to a feature; and time information relating to a time when the map component information is acquired; and controls, on recognizing that the acquired time information has exceeded the predetermined time period, the display unit to superposed~~display~~ the map information corresponding to the time information on the map information in a display pattern with higher transparency than ~~different from~~ the map component information corresponding to

the time information not having exceeded the predetermined time period.

[15] (Amended) A map information display control method in which a computing unit controls a display unit to display map information, wherein the computing unit acquires: map component information forming the map information with at least one of traffic information relating to a traffic status or feature information relating to a feature; and time information relating to a time when the map component information is generated; and controls, on recognizing that the time information of the acquired information has exceeded the predetermined time period, the display unit to ~~superposed~~display the map component information of the acquired information on the map information in a display pattern with higher transparency than different from the map component information of the information including the time information not having exceeded the predetermined time period.

[16] A map information display control program controlling a computing unit to work as the map information display control device according to any one of claims 1 to 11, the program alternatively controlling the computing unit as the map information display control system according to claim 12 or 13.

[17] A map information display control program controlling a computing unit to execute the map information display control method according to claim 14 or 15.

[18] A recording medium storing a map information display control program, in which the map information display control program according to claim 16 or 17 is stored in a manner readable by the computing unit.